

## Acute Hematogenous Osteomyelitis Treated With Penicillin—A Case Report

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THE following case of acute hematogenous osteomyelitis is reported because of the extremely interesting x-ray films, showing the results of a new method of treatment of an old disease.

The patient a girl 27 months of age, was admitted to the Pediatric Service, Vallejo Community Hospital, June 16, 1945, because of pain and swelling in the left leg. She had been running an elevated temperature (up to 40°C.) for three days and was quite ill. There was tenderness in the right knee and lower leg, with swelling about the knee and upper tibia. The general physical examination disclosed nothing beyond normal limits except for chronically infected tonsils. The WBC was 29,500 with a differential of PMN 74 per cent. X-ray films, taken June 22, 1945, were negative for bone changes (Figure 1). The patient was given penicillin under the tentative diagnosis of thrombophlebitis, left saphenous vein. She received 12 days' treatment of 60,000 units per day divided into six doses per day.

She was first seen by one of the writers on June 23, 1945, at which time there was swelling on the mesial side of the upper tibia and in the knee joint, with definite bone tenderness over the upper tibia. There was marked redness and increase in local



Figure 2.

temperature but no localized area of inflammation. Some enlargement of the inguinal lymph nodes was noted. The leg was immobilized in plaster, and marked improvement followed. The patient was discharged and returned home June 28, 1945, with her leg still in the cast.

The fever recurred, and the patient was readmitted July 13, 1945. On removal of the cast it was found that there was some bone tenderness. The swelling had subsided, but some induration of the upper tibia was present. There was no fluctuation or localization. Another x-ray film was taken (Figure 2). The second writer saw her for the first time on this admission and the diagnosis of acute hematogenous osteomyelitis of the right tibia was established. Again the leg was immobilized and penicillin therapy was instituted with administration of 160,000 units a day, divided into eight doses daily, and continued for a period of 14 days.

On July 25, 1945, the cast was removed to permit examination. The writers anticipated an abscess and sequestration, with drainage. They found, however, that pain in the leg at this time was diminished or absent, and that induration also had diminished. The patient was discharged and re-



Figure 1.



Figure 3.

turned home with her leg in a cast on July 27, 1945, symptom free.

Another x-ray film was taken through the cast on August 23, 1945 (Figure 3), and the patient still was symptom free.



Figure 4.



Figure 5.

Although an abscess still was anticipated, when the cast was removed on September 6, 1945, all clinical signs were normal except for questionable induration. X-ray films showed the bones to be healing (Figure 4), and immobilization was discarded. The patient regained normal function and was free of symptoms. On October 1, 1945, another x-ray film was taken (Figure 5).

Her past history revealed an admission to the hospital in January, 1945, for a severe tonsillitis. It was the opinion of the writers that the tonsils were the focus of infection. No other focus was found and an adeno-tonsillectomy was arranged for November, 1945.

Unfortunately, the bacterial etiology was never established, but with that exception it is felt the diagnosis is accurately established. Feeling that the recovery\* from acute hematogenous osteomyelitis without surgery is quite remarkable, the writers believe that large doses of penicillin are indicated in the acute stage and for a longer period. In the acute stage a minimum of 21 days of penicillin administration is suggested. No untoward effects of penicillin were noted.†

Cultures of the patient's tonsils on nutrient broth and blood agar showed non-hemolytic streptococcus; non-hemolytic staphylococcus and pseudomonas pyocyaneus.

\* As of August 15, 1946, there had been no recurrence of symptoms or clinical findings of osteomyelitis in the left tibia.

† The only untoward effect of penicillin noted in a large personal series of military cases was urticaria which was easily controlled by stopping the drug, and routine measures.